

**DOES KAZAKSTAN OIL WEALTH  
HELP OR HINDER THE TRANSITION?**

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## **ABSTRACT**

Increased oil wealth could help the Kazakhstan transition because the mineral rents allow a higher rate of investment while the extra export revenue eases the foreign exchange constraint on development. However, many mineral economies have had a disappointing economic growth record and there is evidence that, as Kazakhstan enters the youthful stage of the oil-driven cycle in the late-1990s, over-optimistic expectations of oil rents are damaging policy formulation. In fact, Kazakhstan oil is high-cost and low-quality so that the rents will be modest unless either a sustained sharp increase in oil prices occurs (but most projections are for lower prices) or production rises sharply (an unlikely event, given the transport constraints). Consequently, Kazakhstan should accumulate any oil rents in an offshore capital fund until such time as their size warrants more active discussion of alternative rent deployment options. Presently, such discussion is an unwelcome distraction from the need to solve the economic problems of the transition, starting with measures to balance the public finances, build domestic capital markets, and revive agriculture.

## **1. INTRODUCTION**

This paper assesses the prospective economic impact of Caspian Basin oil wealth on the transition in Kazakhstan. It draws on the experience of the developing market economies which indicates that mineral-driven development follows a four-stage cycle which calls for timely macro policy adjustments if the benefits or oil wealth are to be secured (Table 1). In addition to making macro policy adjustments through the mineral cycle, governments must create an environment which includes clear and stable rules for investors with regard to ownership of assets, taxation, profit repatriation, and environmental standards so that firms will invest for the long-term.

### **1.1 The Mineral-Driven Cycle**

The initial, nascent stage of the mineral-driven cycle is characterised by investment in the oil field (as, for example in Colombia in the early-1990s, or Kazakhstan in the mid-1990s). It requires the establishment of appropriate mechanisms to capture the bulk of the oil rents (through a profit-sensitive tax regime), the creation of a mineral revenue stabilization fund (to insulate public expenditure from oil revenue shocks), the establishment of a capital fund (to ensure that the depletion of natural capital is responsibly managed) and the establishment of checks on profligate public spending (such as central bank independence).

The second, youthful stage of the cycle sees the rapid expansion of mining (as in PNG in the early-1990s or Colombia and Kazakhstan in the late-1990s) which may trigger Dutch Disease effects (a shrinking of the share of the non-mining tradable such as agriculture and manufacturing, relative to GDP). The magnitude of the Dutch disease effects can be mitigated by: sterilising the oil rents that cannot be effectively absorbed into the domestic economy in the offshore capital fund; and by expanding domestic absorptive capacity by, for example, welcoming foreign construction firms and workers in order to circumvent the skill bottlenecks that might trigger inflation.

The third stage, early-maturity, sees a deceleration in mineral expansion (as in Trinidad and Tobago and Jamaica during the 1980s) and tends to be the most difficult phase of the cycle. It requires measures to encourage extra sources of government revenue and foreign exchange by diversifying the economy; and to boost the domestic saving rate with regard to GDP. Finally, late-maturity sees an absolute decline in the oil rents (as in post-1986 Indonesia), and the need to sustain diversification into a widening range of primary product exports and manufactured goods also. This stage is likely to require a real depreciation of the exchange rate and intensified emphasis on expanding the skills of the workforce.

### **1.2 Implications of Oil Wealth for Kazakhstan**

The mineral rents from increased oil wealth in Kazakhstan could aid in the transition by allowing a higher rate of investment while the extra export revenue eases the foreign exchange constraint on development. The performance of the oil-exporting countries from 1970-93 was disappointing (Table 2) but such an outcome need not be repeated if the lessons of that period are learned. One reason for expecting more success in the future from oil-exporting countries stems from the fact that their past performance was adversely affected by heightened volatility of commodity prices (which left countries unsure as to where their economies were in the mineral-driven cycle). The future prospects for oil prices are more stable (World Bank 1997). Past price volatility also rendered government finances especially difficult to manage and this factor, when combined with the 1970s' fashion for over-ambitious state intervention, notably in the form of import substitution industry, expanded the role of the state and thereby magnified the adverse consequences of policy error. Nevertheless, the disappointing past performance does justify a policy bias towards caution in regard both to saving and to the rate of domestic absorption of the rent.

In this context, Kazakhstan is completing the transition from a planned economy to a market economy just as a sizeable increase in oil output is under way from large new fields in the Caspian Basin. The country is passing from the nascent stage of the mineral-driven cycle into the youthful stage. The prospect of extra financial resources has already led some to describe Kazakhstan as a second Kuwait. The expansion of oil revenues might therefore facilitate the transition for Kazakhstan by a timely easing of the fiscal deficit and boosting domestic investment. Unfortunately, there is evidence in 1997 that over-optimistic expectations are adversely impacting policy-making. For example, some Kazakhstan government officials argue that the oil rents can plug the pension funding gap (which is equivalent to 4% of GDP); while other officials jeopardise continued IMF financial backing by declining to disclose, even in the broadest terms, the extent of discretionary investment incentives.

Any assessment of the impact of expanded oil production on the Kazakhstan economy must begin with an estimate of the prospective income stream, yet hard numbers concerning the size and duration of any oil windfall are conspicuously absent. Therefore, the next section (two) of this paper evaluates the likely scale of Kazakhstan's oil resources and, more importantly, the prospective scale of the revenues. Section three then assesses how far the transition has progressed and what still remains to be done. Section four compares consumption and saving strategies for the deployment of oil rents. The conclusions are summarised in section five.

## **2. SCALE OF OIL RESOURCES AND POTENTIAL REVENUES**

The Caspian Sea Basin may become the second largest oil province after the Persian Gulf. It may contain up to 200 billion barrels of oil of which 10.0 billion were classed in 1997 as proved reserves for Kazakhstan (State Department 1997). In addition, the Kazakhstan section of the Caspian is believed to contain at least 25 billion barrels (Financial Times 1997) while the most optimistic projections range upwards to 95 billion barrels (Table 3). Even the lower of the two projections will support a significant expansion in oil production from the 1995 level of around 440,000 barrels per day (bpd) (BP 1996). Construction of the CPC pipeline should add 1 million barrels of export capacity by 2002 (Kalicki 1997), with prospects for a further rise which could lift total production to 2.5 million bpd by 2005.

By combining this production schedule with an estimate of the oil extraction costs, an indication of the scale of the oil rents can be secured. Table 4 summarises recent estimates of the production costs for Caspian Basin oil made by PlanEcon (1997). The average cost of production is \$10.96 per barrel, including a hefty component of \$4.44 for shipment via pipeline/ tanker, but excluding the corporate share of gross profit. In order to estimate the rents, the return on capital and state taxation must be added to the \$10.96 figure and the sum must then be subtracted from the realised price of oil. Any surplus revenue is the rent which, by definition, is not required by a competitive producer in order to remain in production. The profit and tax component adds a further \$1.88 per barrel, assuming that the government equity share is 25%. This lifts the cost per barrel of oil to \$12.84. Provided that the corporate return shown in Table 4 is commensurate with the investment risk, the rent can be taxed away by the government. Such a tax can be justified by environmental accounting (see section four) as compensation for the once-for-all depletion of the country's natural capital.

Table 4 indicates that rents on Caspian Basin oil are likely to be low and there are two main reasons for this. First, high transportation costs from the landlocked state make for high delivered costs; and, second, the oil has a high sulphur content which results in prices that are 25% lower than North Sea prices. Using the data from Table 4, the prospective rents under differing combinations of output and price are estimated in Table 5. The 'middle' scenario assumes a North Sea oil price of \$18 per barrel which, after allowing for the lower quality of Caspian Basin oil, yields a very modest rent component of 65¢ per barrel. But at the slightly higher North Sea oil price of \$21 prevailing in early-1997, the average rent per barrel would be \$2.90. On

the other hand, a cautious North Sea oil price of \$15 per barrel (only slightly below the World Bank (1997) projection for the decade 2000-2010), yields no rent at all on Kazakstan oil produced for export.

Table 5 also shows that in aggregate terms, the projected oil rents for the three price scenarios range from nothing with a \$15 per barrel benchmark price to \$2.65 billion under the most optimistic price/ output combination. This latter figure is the equivalent of 13.2% of Kazakstan GDP and, by way of comparison, is some 30-50% above the windfall which Venezuela received during the 1974-78 and 1979-81 oil booms, but still only two-thirds of the windfalls which Indonesia and Nigeria received at that time (Gelb and Associates 1988). However, the 'middle' (and most likely) scenario of 1.5 million bpd output together with North Sea oil prices at \$18 per barrel yields a more modest rent stream which is equivalent to only 1.8% of GDP.

The middle scenario is consistent with industry projections for flat oil prices. This price scenario reflects the fact that there has been a substantial expansion in oil reserves: global oil reserves exceeded 1 trillion barrels in 1995 compared with 700 million in 1985 and 670 million in 1975 (BP 1996). As a result, despite the rapid growth of the east Asian economies and the continued recovery in Latin America, downward pressure on oil prices emanates from new oil discoveries (including those in the Caspian Basin), the readiness of OPEC producers like Kuwait and Venezuela to expand output, and the expected eventual normalization of relations with Iraq. Consistent with such pressures, the World Bank (1997) projects the North Sea oil price at \$19.50 per barrel for 1997 in current prices, and falling in real terms thereafter. More specifically, expressed in constant dollars, the real price of oil is projected to decline by 17% between 1997 and 2000, and by 20% between 1997 and 2010.

The estimated oil rents for Kazakstan under the middle scenario would boost public revenues by only 10%, if the level of public expenditure is assumed to stabilise at 16% of GDP. This amount is far less than that which can be achieved by improved tax collection efficiency, for example. Consequently, more can be achieved by applying greater effort to ensuring the speedy success of economic reform, the prospects for which are assessed in the next section.

### **3. THE MID-1990s' PRE-CONDITIONS**

The legacy of the link with the former Soviet Union is a mixed one. The USSR provided guaranteed markets for Kazakstan grain grown under the Virgin Lands scheme and also for heavy and chemical industry (HCI) which was located in northern Kazakstan for strategic reasons. These guaranteed markets shrank abruptly with the transition and some are unlikely to recover because they were based upon prices that bore little relation to real factor costs. The transition recession has been deepened by the lag in reform compared with the centrally-planned economies of north-eastern Europe (de Melo et al. 1995, Fischer et al. 1996). The Soviet legacy also includes a number of environmental problems such as the shrinkage of the Aral Sea, water contamination, soil loss in the Virgin Lands, severe air pollution in the industrial cities of the northeast, and radiation in the nuclear test site. The upheaval of the transition has compounded earlier economic and environmental neglect, so that much investment is needed for farming, industry and communications (Financial Times 1996).

Offsetting these problems, however, Kazakstan has an abundant natural resource endowment whose exploitation will be facilitated by the country's relatively well-educated workforce. But Kazakstan still lacks the social institutions with which to make the best use of these assets. Consequently, like Singapore in the mid-1960s after its unexpected and abrupt departure from the Malaysian federation, Kazakstan will need to rely heavily for some years upon the technical and managerial expertise of foreign firms. Singapore, aware that its social capital was deficient, set about attracting foreign investment, a policy which only faltered when the state rashly intervened to accelerate the upgrading of technical skills in the mid-1980s. Of

further interest to Kazakhstan, Singapore's development was capital-intensive and sustained high rates of growth through unusually high levels of investment (World Bank 1993).

Kazakhstan will attract higher levels of investment the sooner successful socio-economic reform is achieved. Consequently, the speeding up of reform which has taken place with IMF backing since 1994 should continue (Financial Times 1996). The IMF-backed reform calls for: rapid completion of privatization; effective market institutions; and the restructuring of the economy. But political uncertainty must also be reduced. Each of these four aspects is now examined in turn, beginning with the political issues.

### **3.1 Political Reform**

There is evidence from resource-rich countries (Auty forthcoming) that development objectives are more likely to be achieved under either an autonomous benevolent bureaucracy (ABB), or a consensual democracy such as that of post-1979 Mauritius or post-1966 Malaysia (Table 6). The transitional Kazakhstan government concentrated power on the chief executive following the dissolution of parliament in March 1995. The new constitution set up two houses: a 47-member senate (of which 7 are presidential nominees and the rest are elected by representatives of 4000 local authorities), and a 67-seat directly-elected lower house. It strengthened the president, whose initial five-year term of office (from 1990-95) has been extended to the year 2000 by a referendum in 1995 and who retains the authority to dissolve parliament in the face of a vote of no confidence.

Consistent with the ABB political model, the Kazakhstan president, having initially delayed reform, moved boldly to implement a rigorous programme of change in the mid-1990s. This required considerable courage as well as strength because, as a late reformer, Kazakhstan experienced a relatively sharp fall in GDP and also a high rate of inflation (de Melo et al. 1995, Fischer et al. 1996). GDP halved between 1990-95 and inflation hit 1880% in 1994. Inflation, however, fell to 29% by the end of 1996 when economic growth became modestly positive with a rising trend (EBRD 1996). In order to complete the reforms, a strong political commitment must persist and frictions within the government must not lead to the emergence of a factional, weakened, government. This will be helped by maintaining the trust and confidence of those experiencing the harshness of the reforms through striving for transparency in the deployment of financial flows, including those from oil.

### **3.2 Property Ownership Reform**

The initial delay in economic reform in Kazakhstan reflected not only the need to strengthen the government, but also difficulties in ending state ownership of production and establishing production units suited to a market economy. The privatization process was slow: it commenced in 1991 with both the spontaneous, and also the assisted, take-over of mainly retail trade and service facilities by employees and management. By 1996 around 11,000 such firms had been sold (some 70% of the total). In addition, land was privatized through the provision of long-term leases and buy-out options to the farm workers. Shares in non-land assets were distributed to those with land rights. By mid-1996, around 90% of all farms and 80% of the land were reported to have been privatized, but agricultural production has been particularly adversely affected by obsolete machinery and an acute shortage of capital and inputs (Almaty Herald 1997).

A second wave of privatization during 1993-95 targeted the 1700 medium and large (mainly agro-industrial) enterprises with 200-5000 employees. Investment privatization funds (IPFs) were established. Vouchers were distributed to the public for the IPFs, whilst the employees retained 10% of the equity and the state could elect to retain up to 39%. This system ensured a majority of shares for the private sector (EBRD 1996). Auctions were held and by early-1996 some 60% of the medium and large firms had been privatized, albeit mainly with cooperative ownership. In contrast, only five of the 180 very large state-owned

enterprises (SOEs), employing over 5000 workers, had been privatised. The non-state sector therefore still accounted for only about 40% of GDP in 1996 (50% on the basis of majority ownership).

A third stage of privatization from 1996-98 aimed to: complete the sell-off of small-scale enterprises; sell a further piece of the state's shares in medium/large firms for cash; and sell the very biggest firms on an individual basis. For the medium/large firms this stage involved selling both those shares which had not hitherto been taken up, along with the state's 39% retained shares. The new firms which replaced SOEs tend to locate in Almaty and to concentrate on the energy and mineral sectors, indicating which parts of the emerging economy appear most viable.

Some forty-four large SOEs were earmarked for restructuring, twelve through management contracts with MNCs. The remainder are heavy loss-makers which are being processed through a World Bank facility designed to either restructure their finances or to liquidate them. The 1995 bankruptcy law expedites this process but the transfer of the social functions of former SOEs to local authorities has out-stripped the government's shrinking revenues. Economic restructuring boosted unemployment, which was officially measured at only 2.5% in 1995, but was probably closer to 25% by 1997. These social costs exert pressure to divert any increase in public revenue, such as that from oil production, into current expenditure at the expense of long-term investment in the social and economic infrastructure. Much political effort is also dissipated in struggling to control the rents which, as section two has shown, are likely to be minimal through the medium-term.

### **3.3 Economic Liberalization**

Price liberalization began in 1994 and was completed by the end of that year, although utility prices lagged behind cost-recovery levels. In the same year, ceilings were removed on oil prices and compulsory deliveries of grain were abolished. An anti-monopoly committee was established to prevent abuse by the remaining large SOEs and also by the state distribution agencies. In trade reform, all export quotas and most export and import licensing schemes were removed in 1995 while barter trade was also abolished. Kazakhstan joined in a customs union with Russia and Belarus, and also joined Uzbekistan and Kyrgyzstan in a free trade and economic cooperation region (EBRD 1996). However, efforts to retard the real depreciation of the exchange rate threaten the recovery of the agricultural sector, in particular.

Financial reform in 1995 reduced interest rates and confirmed central bank independence while investment banks were separated from deposit-taking banks. In 1997, non-performing loans in the ailing state sector caused two banks, responsible for 20% of deposits, to be merged whilst a third was dissolved (EBRD 1997). However, despite both the inefficiency and lack of transparency of local banking practices, foreign banks were limited to a 25% ownership ceiling. The slow emergence of an effective capital market most adversely affects the agricultural sector.

State revenues fell to only 20% of GDP in 1995 and the budget deficit remained at 3.9% of GDP, 30% of which was financed through Treasury Bills. Yet tax reform had set a ceiling of 45% on corporate tax (to service firms and 30% to other firms) and 40% on income tax. Moreover, a uniform VAT of 20% had been introduced and the average import duty was raised from 5% to 15% to offset the expected loss of revenue (EBRD 1996). Consequently, in order to fund social security, a levy of 1% of wages was introduced along with a 37% contribution from wages to pensions. It was necessary to target the poorest groups with a further 30% income supplement because inflation had shrunk real wages. Government revenues fell further still in 1996, to less than 14% of GDP, and for some government officials prospective oil revenue presented an easier solution to the public deficit than did improved tax collection or faster economic growth. This is unlikely to be the case.



### 3.4 Restructuring Production in Line with Comparative Advantage

Privatization and market reforms have transformed the nominal structure of Kazakhstan GDP which had been dominated by HCI. This original dominance reflected not only the Soviet strategic emphasis on HCI but also the internalization of much service activity within the HCI plants. In 1990, the share of industry in GDP was 42% but it shrank to less than 18% by 1995. In contrast, the share of the agricultural sector in GDP appeared to remain relatively stable at around 29%, despite declining production.

Some insight into the likely structure of the reformed economy is provided by the Syrquin and Chenery (1989) 'norms' derived from the econometric analysis of data from more than one hundred countries. Their figures suggest that for a country with the natural resource endowment and the per capita income of Kazakhstan (around \$1,100, the low middle income level of the World Bank classification and the equivalent of \$660 in 1980 dollars), the share of agriculture in GDP would be 31.5%, whereas manufacturing would provide 12.5%, construction and utilities 11%, services 37% and mining 8%.

The lowering of barriers to market-based trade is expected to realign the Kazakhstan economy towards primary production, like Chile in the late-1970s (Amin Guiterrez de Pineros and Ferrantino 1997). That reorientation will be further strengthened by the rapid growth of mining which will push that sector's contribution above the Syrquin and Chenery norm of 8% of GDP. In the mid-1990s, minerals already comprised more than two-fifths of the exports of Kazakhstan, with oil and gas alone responsible for one-third. Sharp recoveries are expected through the late-1990s in the production of copper, alumina and steel while gold should expand rapidly. In the early-1990s Kazakhstan had produced 112 million tonnes of coal, 43 million tonnes of iron ore and 14 tonnes of gold (Statesman's Yearbook 1996). Many other minerals are present within the vast 2.7 million square kilometres of Kazakhstan.

Much of the HCI which survives will comprise primary product processing and the utilities. As noted earlier, by 1996, privatization was bringing strong rebounds in production, as in the case of the 6 million tonne Ispat-owned integrated steel plant and 250,000 tonne Samsung-owned copper refinery. MNC investors in HCI see potentially strong links to a vigorously-expanding food processing sector. But much of the manufacturing legacy from central planning, such as farm machinery, fabrics, white goods and television sets is unlikely to survive.

Mining and HCI are both highly capital-intensive, so that the agricultural sector will be especially important in expanding direct and indirect employment opportunities. Kazakhstan has one of the highest endowments of cropland per capita among the developing countries, at just over 2 hectares, although only 6% of that is irrigated (WRI 1996). In the early-1990s the country produced around 15 million tonnes of grain, 5.5 million tonnes of cotton, 3.2 million tonnes of vegetables and almost 1 million tonnes of sugar beet. There is considerable scope for improvement because yields have tended to be erratic and generally low. For example, grain yields are typically 1 tonne per hectare, barely one-quarter EU levels and half the levels to be expected with improved practices (which await adequate investment, however). Kazakhstan has the potential to produce 25 million tonnes of grain annually, of which one-third would be available for export (Financial Times 1996).

Rapid economic growth based upon new investment offers the most effective way to boost taxation, provide more employment opportunities (and cut welfare costs), and close inefficient and polluting factories. Such new investment will incorporate best practice environmental technology and, with achievable output expansion rates of 10% per annum, could replace existing obsolete capacity within seven years and reach four times the existing capacity within two decades. Yet, rather than accelerate economic growth, the oil sector will have the exact opposite effect if premature and over-optimistic expectations about the scale of oil revenues engage government time and retard the reform process.

#### 4. OIL RENT DEPLOYMENT STRATEGY

Much has already been achieved through the IMF-backed economic reform programme that commenced in 1994; but a clear strategy for the deployment of oil sector revenues is required. This must be reinforced by appropriate institutional mechanisms. That strategy should be in tune with the rent estimates outlined in the second section of this paper which suggest that sizeable rent flows are likely to be deferred for at least one decade. If this assumption should prove overly pessimistic it is of some consolation to note that the damage done from mistakenly assuming that an oil boom is modest is far less than the damage done by assuming an oil boom will be large when it turns out not to be so.

It is also sobering to note that even modest oil revenues can severely damage economic prospects if governments are over-optimistic (as is currently the case in Kazakhstan) and, as a result, unwisely use the revenues as collateral to boost external debt. This is what Mexico, Venezuela and Nigeria did in the late-1970s, for example (Gelb and Associates 1988, Auty 1990). This implies that the Kazakhstan government would be well advised to adopt a very cautious attitude towards the oil rents even though they are likely to be modest through the medium-term.

##### 4.1 The Basic Natural Resource Accounting Framework

Environmental accounting provides a rationale for the deployment of the oil rents. It makes an important distinction between the revenue flowing from taxation of oil sector profits (estimated at 56¢ per barrel in Table 4 and henceforth termed ‘normal’ taxation) and the rent. The normal taxation is regarded as a levy upon the return to man-made capital. That capital can, in theory, be recouped through conventional depreciation and redeployed in other sectors. The scale of the additional revenue from ‘normal’ taxation would be \$204 million assuming that production increased by 1 million bpd to 1.5 million bpd and \$408 million with a rise to 2.5 million bpd. These figures are the equivalent of an extra 1% of GDP and 2% of GDP, respectively.

In contrast to taxes from man-made capital, the rent reflects the return on the once-for-all use of *natural* capital and so should be accounted for in a manner that reflects this situation. Under the net price method of accounting for mineral asset depletion, the entire rent is, in effect, treated as the sum which must be set aside to reflect the depletion of natural capital (Repetto et al. 1989). This approach has been criticised because it seems to make an excessive allocation to saving and because it is also less satisfying intuitively than an alternative measure, namely the ‘user cost’ (El-Serafy and Lutz 1989).

The user cost method of accounting for mineral asset depletion distinguishes between two components within the rent: an income component that can be consumed by the present generation, and a capital component which must be saved. The capital component is defined as that sum which must be set aside annually in order to accumulate sufficient funds which, when invested at the appropriate rate of interest, will provide an income stream equivalent to that enjoyed during the life of the mine into perpetuity.

Table 7 shows that the size of the capital component is sensitive to the magnitude of the reserves and the interest rate. The risk that technological obsolescence may prevent full exploitation of the mineral, makes it prudent to adopt a maximum twenty year time horizon for the reserves as a general rule-of-thumb. Table 7 suggests that the application of such a limit would require a capital component of 66% of the rents if a social discount rate is employed, but only 14% if a private discount rate of 10% is used. The latter would appear to be most appropriate for a relatively low-income country like Kazakhstan. This implies that the bulk of any rents could be counted as consumption, suggesting that a ‘consumption’ rent deployment strategy might be justified. This option is explored below.

## 4.2 A 'Consumption' Strategy for the Rent

Assuming that 86% of the rent is true income (under the private discount user cost calculation) allows for increased revenue consumption as oil production expands. This could occur either by adding the rent to normal taxation, by reducing taxation (by, for example, substituting oil rents for the social security contributions of the workforce), or by direct transfer to the population as a per capita supplement. Under the 'middle' scenario shown in Table 4, the additional government revenue would be an extra 1.0% of GDP at 1.5 million bpd (multiplying the extra revenue by a coefficient of 0.86) and twice that at 2.5 million bpd. Alternatively, an income supplement would be around \$63 per capita per annum at 1.5 million bpd and twice that at 2.5 million bpd. Some of the supplemental income would be saved, some would be spent on domestically produced goods and services, while some would be spent on imported goods.

One important consequence of the direct 'consumption' option is that the expansion of produced and human capital within the public sector would proceed at much the same pace as without the oil windfall. Chenery and Syrquin norms suggest that the rate of investment for a country with the per capita income of Kazakhstan in the mid-1990s would be around 20% of GDP. This is rate of investment is approximately the level which was sustained by Kazakhstan through the 1980s (World Bank 1994), but more recent figures are not available. Given the expected capital-intensive character of growth in resource-rich countries like the mineral economies (World Bank 1993), and assuming an efficient allocation of resources, that investment rate implies a GDP growth rate of 4-5% (or some 3-4% per capita). This is disappointingly low and is one reason why a 'saving' deployment strategy is preferable.

## 4.3 A 'Saving' Strategy for the Rent

Despite the case made from environmental accounting for regarding a significant fraction of the oil rent as consumption income, long-term welfare could probably be increased faster by treating any windfall as natural capital. The urgent need to replace obsolete capital stock for employment and environmental reasons, makes a higher rate of investment preferable to the lacklustre growth prospect outlined previously. There are four additional reasons for choosing a saving strategy and they are based on reducing risk. First, it is expected that the rents will initially be low (Table 4); second, given the downward pressure on oil prices, the oil rents could suddenly turn negative; third, the premature anticipation of the rents is already diverting effort away from the task of sustaining reform; and fourth, as noted earlier, over-optimistic rent projections inflict greater damage on an economy than overly cautious ones do.

By allocating the rent to an offshore capital fund in the first instance, such risks can be minimised and a stable fund can be accumulated for boosting long-term investment. The rent should accumulate in the capital fund until such time as it reached a significant size *and* the likely future magnitude of the rent becomes more clearly established. In the long-term, the debate on how best to absorb the oil rents would merit more attention if the oil rent capital fund accumulated to, say, 5% of GDP by the middle of the next decade and seemed likely to expand by more than 1% of GDP annually as a consequence of the growth in oil production. Until that time, such a debate is premature and, worse, is likely to prove a damaging distraction from the real priority of completing the reform process.

In the mean time, freed from the distraction of contesting access to elusive oil rents, the development strategy of Kazakhstan could focus on the successful completion of the reforms. This requires that priority be given to improvements in tax collection and the creation of flexible financial markets. The latter would be particularly helpful for the agricultural sector that has been starved of capital and yet represents the largest component of GDP and also embraces some of the direst poverty. Increased agricultural production would help reduce imports and expand exports, thereby making more foreign exchange available for the importation of capital goods. It would also improve employment prospects and boost incomes in some of

the poorest parts of the country. This in turn should ease pressure on social expenditure while also contributing to increased government revenues. This emphasis on improving the flow of finance to agriculture assumes that foreign investors will bear the brunt of the effort in revitalising the mining, utility and more competitive HCI sectors.

## **5. CONCLUSION**

Mineral economies should be able to grow faster than non-mineral economies because the mineral rents permit a higher rate of investment while the extra export revenue eases the foreign exchange constraint on development. But many mineral economies have had a disappointing economic growth record. Rather ominously, as Kazakhstan switches from the nascent stage of the oil-driven cycle into the youthful stage in the late-1990s, there is evidence that over-optimistic expectations of oil rents have damaged policy execution.

In fact, estimates of Caspian Basin oil extraction costs suggest that the fields are high-cost. Rents will therefore be modest unless a sustained sharp increase in oil prices occurs (something which is not widely expected) or the volumes shipped are very large (which will take at least a decade to build up). Although a case can be made from environmental accounting for regarding the bulk of any oil rents as available for consumption, the uncertainties associated with oil prices and volumes, and the risks arising out of over-optimistic projections, combine to make the case for saving the rent over the medium-term.

Any oil rents should be accumulated in an offshore capital fund until such time as their size warrants more active discussion of the alternative deployment options. Meanwhile, solutions to the country's economic problems must be found in the absence of windfall oil rents, starting with measures to balance the public finances; to improve domestic capital markets; and to revive the agricultural sector, which is less open to inflows of foreign capital and skills than either mining or mineral processing.

**Table 1. Policy Response to the Mineral Driven Cycle**

Stage	Character	Macro Effects	Policy Response
Nascent	Oil investment inflow	Exchange rate pressure	Create rent tax, Build capital fund, Establish revenue stabilization fund, Grant central bank independence
Youthful	Rapid oil expansion	Exchange rate appreciation Dutch Disease effects	Sterilize windfall rent Expand domestic absorptive capacity
Early-Mature	Slow-down of oil output	Growing tax and foreign exchange constraint	Substitute new tax sources, Encourage domestic saving, Promote sectoral diversification
Late-Mature	Decline in oil output	Persisting tax and foreign exchange shortages Rising unemployment	Depreciate real exchange rate Boost skill acquisition

**Table 2. Resource Endowment and Per capita GDP Growth 1970-93 (%/Year)**

Countries (Number)	1970-73	1974-79	1980-85	1986-93	1970-93
<b><i>Resource Poor<sub>1</sub></i></b>					
Large (7)	2.8	4.9	3.1	3.5	3.7
Small (13)	3.1	4.1	0.7	1.7	2.1
<b><i>Resource Rich<sub>2</sub></i></b>					
Large (10)	0.1	-0.2	0.1	0.0	0.0
Small Non-Min (31)	2.0	1.7	-0.7	0.2	0.5
Small Hard Min <sub>3</sub> (16)	2.2	0.2	-1.8	-0.8	-0.4
Small Oil Exp <sub>3</sub> (8)	6.5	1.4	-1.7	-0.6	-1.0
<b><i>All Countries</i></b> (85)	2.7	2.0	-0.5	0.6	0.8

Source: UMCTAD

Note: 1 Large country defined as GDP &gt; \$7 billion in 1970

2 Resource rich defined as &gt; 0.3 ha cropland per capita in 1970

3 More than 40% of export revenues from oil

**Table 3. Estimated Recoverable Oil and Gas, Caspian Sea Region**

Country	Oil (billion bls)			Natural Gas (trillion m <sup>3</sup> )		
	Proven	Possible	Total	Proven	Possible	Total
Azerbaijan	3.6	27.0	31.0	0.3	1.0	1.3
Kazakhstan	10.0	85.0	95.0	1.5	2.5	4.0
Turkemen						
-istan	1.5	32.0	33.5	4.4	4.5	8.9
Uzbekistan	0.2	1.0	1.2	2.1	1.0	3.2

Source: State Department (1997), 4.

**Table 4. Estimated Distribution of Oil Revenues (US\$/Barrel)**

Cost Category	US\$
Finding <sub>a</sub>	0.50
Development (Capital) <sub>b</sub>	2.27
Operating <sub>a</sub>	3.75
Pipeline Tariffs <sub>c</sub>	3.41
Maritime Shipping <sub>d</sub>	1.03
MNC + Local Firm Net Income (75/25 equity) <sub>e</sub>	1.32
Corporate Tax (30%)	0.56
Total Production Cost	12.84

Source: After Planecon (1997)

Note: a. Based on 7 majors worldwide average  
b. Based on estimates for 7 majors in FSU  
c. Estimates  
d. Based on rates from Black Sea to Europe  
e. Based on ASIIOC

**Table 5. Projected Kazakhstan Oil Rent Stream, Three Scenarios**

North Sea Oil Price (\$/bl)	15.00	18.00	21.00
Caspian Oil Price (\$/bl) <sub>a</sub>	11.25	13.50	15.75
Netback/ Rent (\$/bl)	0.00	0.65	2.90
Total Rent (\$ billion)			
0.5 million bpd	-	0.119	0.529
1.5 million bpd	-	0.356	1.588
2.5 million bpd	-	0.593	2.646
Total Rent (% GDP) <sub>b</sub>			
0.5 million bpd	-	0.6	2.6
1.5 million bpd	-	1.8	7.9
2.5 million bpd	-	3.0	13.2

Note: a. Discounted to 75% of North Sea Price

b. GDP = \$20b at 1997 prices (assumes 5%/yr growth to 2020)

**Table 6. Typology of Political States (After Lal)**

Autonomy	Character		Variants	Examples
Autonomous -{	Benevolent	-----[	Monarchy	Brunei
			Bureaucratic	Indonesia Chile 1975-90
	Predatory	-----[	Authoritarian	Zaire
			Bureaucratic	Peru 1968-78
Factional --{	Democratic	-----[	Consensual	Botswana Jamaica post-88 Namibia post-90
			Polarising	Jamaica 1972-88 PNG, Trinidad + Tobago
	Oligopolistic	-----[	Plantocracy	Namibia pre-90
			Populist	Peru post-1978

Source: Lal (1995)

**Table 7. Net Income Under the User Cost Asset Depletion Method**

Life Expectancy of the Reserve (Years)	Discount Rate (%)		
	2	5	10
2	6	14	25
5	11	25	44
10	20	42	65
20	34	64	86
50	64	92	99
100	86	99	100

Source: El Serafy and Lutz (1989)

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